

IN THE CLAIMS:

Please cancel claims 1-4 and insert in lieu thereof the following new claims 5-12.

5. (New) A hybrid drive device having a generator which is connected to an engine for driving the generator and to a first converter for converting an alternating current generated by the generator to direct current for charging a storage device connected to the first converter, and an inverter which is connected to the first converter and the storage device and which converts alternating current generated by an electrical motor during regenerating operation to direct current for charging the storage device,

wherein the electrical motor is connected to the inverter and is driven by electrical power from the storage device and/or electrical power from the generator, and

wherein the storage device includes:

a condenser bank having a plurality of condenser cells connected in series;

a plurality of parallel monitors, each parallel monitor being connected in parallel to a corresponding one of the condenser cells, monitoring a terminal voltage of the corresponding condenser cell, and conducting a direct current so as to bypass the corresponding condenser cell if the terminal voltage of the corresponding condenser cell exceeds a fixed voltage; and

a second converter, the second converter being a bi-directional switching converter which is connected in series with the condenser bank and which controls the direct current for charging the condenser bank to a fixed current.

6. (New) The hybrid drive device according to claim 5, wherein the second converter of the storage device further controls a discharge voltage of the condenser bank to a fixed voltage.

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7. (New) The hybrid drive device according to claim 5, wherein each condenser cell of the storage device is an electrical double-layer condenser.

8. (New) The hybrid drive device according to claim 7, wherein an energy density of each condenser is greater than 10 Wh/kg.

9. (New) A hybrid drive device for use in a hybrid vehicle, the hybrid vehicle having a generator which is connected to an engine for driving the generator and to a first converter for converting alternating current generated by the generator to direct current for charging a storage device connected to the first converter, and an inverter which is connected to the first converter and the storage device and which converts an alternating current generated by an electrical motor during regenerating operation to direct current for charging the storage device,

wherein the electrical motor is connected to the inverter and drives at least one wheel of the hybrid vehicle with electrical power from the storage device and/or electrical power from the generator; and

wherein the storage device includes:

a condenser bank having a plurality of condenser cells connected in series;

a plurality of parallel monitors, each parallel monitor being connected in parallel to a corresponding one of the condenser cells, monitoring a terminal voltage of the corresponding condenser cell, and conducting a direct current so as to bypass the corresponding condenser cell if the terminal voltage of the corresponding condenser cell exceeds a fixed voltage;

a second converter, the second converter being a bi-directional switching converter which is connected to the condenser bank and which controls the direct current for charging the condenser bank to a fixed current; and

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a controller which detects a state of charge in the storage device and required power for driving the vehicle and which controls the second converter to supply power for the electrical motor corresponding to the required power for driving the vehicle, the controller further controlling the engine to maintain the state of charge to a suitable value.

10. (New) The hybrid drive device according to claim 9, wherein the second converter of the storage device further controls a discharge voltage of the condenser bank to a fixed voltage.

11. (New) The hybrid drive device according to claim 9, wherein each condenser cell of the storage device is an electrical double-layer condenser.

12. (New) The hybrid drive device according to claim 9, wherein the storage device is charged with electrical power generated by the electrical motor during regeneration or with excess electrical power of the generator, and the stored electrical power in the storage device is supplied to the electrical motor when a large amount of power is required during vehicle acceleration.
